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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,916	11/18/2003	Eric Howard Klingenberg	06471 USA	6531
23543	7590	10/04/2005	EXAMINER	
AIR PRODUCTS AND CHEMICALS, INC. PATENT DEPARTMENT 7201 HAMILTON BOULEVARD ALLENTOWN, PA 181951501			SERGENT, RABON A	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,916

Applicant(s)

KLINGENBERG ET AL.

Examiner

Rabon Sergeant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/03, 1/04, 3/05</u> . | 6) <input type="checkbox"/> Other: ____ |

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1. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Firstly, applicants' Markush groups within claims 1, 4, 8, 11, 15-17, 22, and 23 wherein the language, "selected from", as opposed to the language, "selected from the group consisting of", is used are improper, because the species should be recited in the alternative.

Secondly, within claims 3, 5, 6, 9, and 10, applicants have failed to specify bases for the claimed weight percents.

Thirdly, within claim 4, it is unclear what constitutes "derivatives" of the specified diisocyanates. It cannot be determined what compounds are encompassed by the language.

Fourthly, within claim 8, applicants have specified polypropylene glycol as a further polyol species; however, claim 1 already specifies polypropylene glycol.

Fifthly, within claim 12, the language, "the first reacting step", lacks antecedent basis. It cannot be determined which reaction is being referred to.

Sixthly, with respect to claim 19, it is unclear what degree of crystallinity may be present and still satisfy the language, "substantially free".

Lastly, with respect to claim 21, it is unclear what there is at least one of.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schafheutle et al. (US 2003/0083457 A1) in view of Kobylanska et al. ('070), Dochniak ('807), Klauck et al. ('433), Seneker et al. ('382), and Shikinami et al. ('077).

Schafheutle et al. disclose the production of aqueous dispersions of at least 20,000 g/mol weight average molecular weight polyurethanes, wherein a prepolymer, initially produced from the reaction of a diisocyanate, including tetramethylxylene diisocyanate, with a polyol, including polypropylene glycol, and a reactant having at least two isocyanate-reactive groups and a group capable of forming anions, is neutralized with an amine, chain terminated, dispersed in water, and chain extended with a diamine. See abstract and paragraphs [0008], [0012]-[0015], [0019], [0025], [0028], [0032], [0033], [0035], [0037], [0041], and [0044]-[0049]. The disclosures within paragraphs [0015], [0041], and [0044] indicate that there is latitude with respect to the sequence of neutralization, chain termination, dispersion, and chain extension; however, given these disclosures, the position is taken that the instantly claimed sequence would have been obvious to one of ordinary skill in the art, because one would have expected the same product to result regardless of whether neutralization or chain termination occurs first.

4. While Schafheutle et al. disclose the use of tetramethylxylene diisocyanate and polypropylene glycol, other reactants are disclosed as being suitable. However, the use of tetramethylxylene diisocyanate and polypropylene glycol in the production of aqueous

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polyurethane dispersions, including their combined use, was well known at the time of invention. Kobylanska et al. and Dochniak disclose that the use of TMXDI in the production of polyurethane dispersions is advantageous, because the products possess lower viscosity and require less solvent. Seneker et al. disclose that the use of polypropylene glycol within polyurethane dispersions display improved properties relative to the use of other polyols. Klauck et al. teach the benefits of using both tetramethylxylene diisocyanate and polypropylene glycol within aqueous polyurethane dispersions. Given these teachings, concerning the advantages of using tetramethylxylene diisocyanate and polypropylene glycol, the position is taken that it would have been obvious to select these components from the teachings of the primary reference and utilize them in the production of aqueous polyurethane dispersions. Furthermore, the primary reference is silent regarding the incorporation of the claimed ionic additive (B); however, the incorporation of such additives within polyurethanes was known at the time of invention as a means for tailoring the conductivity of the polyurethane. This position is supported by the teachings of Shikinami et al. at column 13, lines 6-44. The secondary reference discloses the compatibility of the ionic additives within aqueous solutions at column 13, lines 42 and 43. Therefore, it would have been obvious to one of ordinary skill in the art, seeking conductive urethane compositions, to incorporate the claimed salts into virtually any polyurethane, including aqueous dispersions thereof.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

R. Sergent
September 27, 2005


RABON SERGENT
PRIMARY EXAMINER